

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

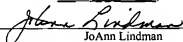
Application No.:	10/762,643	Confirmation No.:	5318
Applicant :	Scott Petersen		
Filed :	January 20, 2004		
TC/A.U. :	3731		
Examiner :	Severson, Ryan J.		
Title :	RETRIEVABLE BLOOD CLOT FILTER WITH RETRACTABLE ANCHORING MEMBERS		
Docket No. :	1001.1735101		
Customer No. :	28075		

**REPLY BRIEF FILED UNDER 37 C.F.R. § 41.41**

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Assistant Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

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By \_\_\_\_\_

  
JoAnn Lindman

Dear Sirs:

Pursuant to 37 C.F.R. § 41.41, Appellant hereby submits this Reply Brief in furtherance of the Notice of Appeal filed on October 19, 2009, the Notice of Panel Decision from Pre-Appeal Review mailed December 23, 2009, the Appeal Brief filed on February 9, 2010, and the Examiner's Answer mailed May 5, 2010. Appellant authorizes the fee prescribed by 37 C.F.R. § 41.20(b)(2) in the amount of \$540 to be charged to Deposit Account No. 50-0413. Permission is hereby granted to charge or credit Deposit Account No. 50-0413 for any errors in fee calculation.

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**I. TABLE OF AUTHORITIES**

NONE

**II. STATEMENT OF ADDITIONAL FACTS**

NONE

**III. ARGUMENT**

A. CLAIMS 16, 17, 20, 21, 25, AND 33-35 ARE PATENTABLE OVER RAVENSCROFT ET AL. IN VIEW OF SUON ET AL.; CLAIMS 1, 2, 5, 6, 9, AND 19 ARE PATENTABLE OVER RAVENSCROFT ET AL. AND SUON ET AL. AND FURTHER IN VIEW OF WHITCHER ET AL.; CLAIMS 24 AND 36 ARE PATENTABLE OVER RAVENSCROFT ET AL. AND SUON ET AL. AND FURTHER IN VIEW OF HEBERT ET AL.

1. *A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.*

2. *If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.*

The Examiner's Answer takes exception to Appellant's characterization of a result of substituting a retrieval system of Suon for the retrieval system disclosed by Ravenscroft for use with the filter embodiment of Fig. 8.

The intent of the passage to which the Examiner objects was to emphasize that the retrieval system for use with the filter of Fig. 8 taught by Ravenscroft, which includes an associated retrieval catheter or similar tubular element, employs thermal activation of the washers as well as means for grasping the hub 12 such that the retrieval system as a whole includes a thermally activated hook withdrawal means and heating/cooling means. Accordingly, replacement of the retrieval system taught by Ravenscroft by a mechanical claw and non hook retracting retrieval system taught by Suon, as illustrated for example by Suon's Fig. 6, presumably replaces the components which carry out the retrieval

process taught by Ravenscroft with the components required by the retrieval process of Suon. The retrieval process of Suon does not employ the thermally activated washers 40 or the tubular legs 26. Accordingly Ravenscroft, as modified by substituting the retrieval system of Suon for one of the systems taught by Ravenscroft, would include only retrieval components taught by Suon.

The Examiner has not specified that only select retrieval components of Ravenscroft are to be replaced by those of Suon while other components are to be retained without retaining their thermally activated functionality. The rejection indicates that the Examiner erroneously has concluded that Ravenscroft does not disclose any retrieval means when, in fact, several are described as discussed in the communication submitted August 5, 2009. Further, the rejection, when read in light of the Examiner's assertion that Ravenscroft does not disclose a retrieval device, suggests little beyond the use of some retrieval device with the filter of Ravenscroft based upon the dual assumptions that Ravenscroft does not disclose a retrieval system and that Suon does disclose a retrieval system which might be useful with the filter of Ravenscroft.

"However, Ravenscroft reference does not disclose a retrieval means for retrieving the filter. Attention is drawn to Suon reference, which teaches the expandable filter to be retrieved using a retrieval device (see figure 6) to allow the filter to be removed and/or repositioned if desired. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a retrieval device, as taught by Suon reference with the filter of Ravenscroft reference to allow the filter to be removed and/or repositioned if desired".

Note that the rejection specifies only that Suon teaches the use of a retrieval device without specifying which of the retrieval devices of Suon or the characteristics of such a device. Subsequent discussion and the reference to Fig. 6 above suggest that the Examiner intended to direct attention to that embodiment and Appellant responded with that understanding. The Response to Arguments found in the Examiner's Answer restates that "it would have been obvious to use a retrieval device ... with the filter device (as shown in figure 8 of Ravenscroft et al.)".

Contrary to the Examiner's assertion, Ravenscroft does appear to disclose removal systems for the filters and includes several variants of grasping the hub 12, for example at column 4, lines 21-23:

“For a filter which is to be removed by grasping the hub 12, it is important for the hub to be centered.”

Accordingly, the disclosure of Ravenscroft is complete in itself with respect to retrieval means and there is no motivation to provide an alternate retrieval device of Suon, particularly a retrieval device which does not adhere to the teaching of Ravenscroft that centering is important and the further teaching that the operating principle of retrieval devices of Ravenscroft includes hook removal from the vessel wall without damage to the vessel:

“It is a primary object of the present invention to provide a vessel implantable filter of shape memory material having temperature induced austenitic and martensite states which may be easily removed by a single removable device after an extended period of time without injuring the vessel wall.” (Column 2, lines 21-25.)

Ravenscroft discusses a generalized removal process in greater detail at column 5, line 59 to column 6, line 8. The various mechanical and thermally assisted removal processes disclosed by Ravenscroft include disengaging the hooks from the vessel wall to minimize damage to an overgrown endothelium layer. The various removal devices disclosed by Ravenscroft were discussed in detail in the communication of August 5, 2009 in which it was noted that the filter of Fig. 8 appears to be the only one which discloses the elements of the pending claims and that the principle of operation of that embodiment relies upon the thermally activated washers 40 to retract the hooks 28 into the tubular legs 26.

The Examiner has failed to provide motivation for the replacement of the fully functional retrieval systems of Ravenscroft, said retrieval systems being adapted to disengage anchoring hooks without injuring the vessel wall and which include components which have been designed to cooperate with elements of the filters of Ravenscroft to minimize damage to the vessel. The proposed replacement systems of Suon do not appear to be adapted to retrieve desirably centered filters (see the illustrated off-center filters and the lack of disclosure with regard to centering) and do not appear to include features which would avoid injury to the vessel wall as the hooks are removed from the wall. (Suon does suggest that the sheath of Fig. 6 may shield the vessel wall from tips 16 during

subsequent removal of the filter through the vessel, but is silent with regard to injury as the potentially overgrown hooks are removed from the vessel wall.)

The Examiner has also returned to an earlier discussion of whether Suon discloses:

“a retrieval apparatus for retrieving or repositioning the blood clot filter device within the blood vessel, the retrieval apparatus including a tubular inner member configured to grasp the apical head, a middle tubular member configured to engage the hub, and an outer sheath for encapsulating the blood clot filter device”

with particular emphasis on whether the middle tubular member of Suon, previously identified as element (60), is configured to engage a hub. (Emphasis supplied by the Examiner.) The Final Office Action stated without further comment that the middle tubular member of Suon “is capable of engaging the hub”; however the only element corresponding to a hub which had been identified in that portion of the Office Action is that indicated by reference numeral 38 (Fig. 8) of Ravenscroft. Appellant noted that the retrieval devices taught by Ravenscroft grasp hub 12 and, in the embodiment of Fig. 8, rely upon the thermally activated washers to withdraw the hooks from the vessel wall. The advantage of this approach is disclosed at col. 6, lines 54-57 which restates the principle of operation of Ravenscroft, namely the avoidance of applying potentially damaging loads to the vessel wall during removal. Appellant further noted that Ravenscroft does not disclose a middle tubular member which engages the hub 38 which appeared to be identified by the Examiner at that point in the prosecution as the hub of the combination of Ravenscroft and Suon most nearly corresponding to the hub of the claims.

In the Advisory Action, the Examiner asserted that Ravenscroft was not relied upon to provide a middle tubular member configured to engage the hub. The Examiner then asserted that the middle tubular member (60) of Suon “is CAPABLE of engaging the hub”. (Emphasis in the Advisory Action.) The Examiner acknowledges that “Although the middle tubular member of Suon is larger than structure 12 (analogous to the hub of Ravenscroft), there is nothing preventing that hub and the middle tubular member from contacting one another if the hub is not centered within the tubular member.”

Appellant respectfully disagrees both with the statement and with the Examiner's application of the erroneous finding. The middle tubular member is prevented from contacting the filter of Suon by the intervening arms 52 associated with tubular shaft 51, whether the filter is centered or not. Further the relative dimensions of the middle tubular member and the hub, determined by the necessity of allowing room for the arms 52 between the middle tubular member and the hub during the operation of the retrieval apparatus of Suon, suffices to ensure that contact between the middle tubular member and the filter hub, whether hub 12 of Suon or hubs 12 and/or 38 of Ravenscroft, does not necessarily occur.

Appellant also calls attention to the Examiner's attempted shifts from "configured to engage the hub", as recited in the claim, to "CAPABLE of engaging the hub" in the Advisory Action and the further attempted shift from "engaging" to "contacting".

Compare:

engage: *transitive verb*: 2 a *obsolete* : to entangle or entrap in or as if in a snare or bog b : to attract and hold by influence or power c : to interlock with : mesh; also : to cause (mechanical parts) to mesh <engage the clutch> (Emphasis added.)

(Merriam-Webster's Online Dictionary, 11th Edition; May 26, 2010)

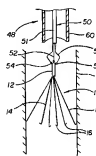
as opposed to the much weaker interaction of "contacting"

contact: "apparent touching or mutual tangency" (*Ibid.*)

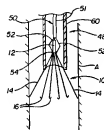
(Additionally, it should be noted that the Examiner has now shifted from the hub structure of Ravenscroft, discussed above, to the simple hub 12 of Suon. In the Response to Arguments, the Examiner attempts to shift back to the hub 12 of Ravenscroft and the structural features thereof while maintaining that there has been no suggestion to modify the middle tubular member of Suon to match the diameter of the hub of Ravenscroft. Said matching would be required to allow the middle tubular member of Suon to "engage" either element 12 or 38 of Ravenscroft. The required resizing to allow the recited "engagement" would additionally require the omission of the intervening arms 52 of the inner member of Suon, along with their grasping function, from the retrieval device of Suon to allow the contact necessarily to occur.)

As will be seen by an examination of Figs. 4 and 5 of Suon, which precede the cited Fig. 6 in the illustrated retrieval process, the arms 52 of elongate inner member 51 surround hub 12 prior to retraction within middle tubular member 60:

*Fig. 4*



*Fig. 5*



Further, contact between the middle tubular member 60 and the legs of the filter effectively center the filter within the middle tubular member as the middle tubular member is advanced past the arms 52 thereby effectively precluding even incidental contact, much less any interaction which might suggest that the middle tubular member 60 “engages” the hub 12. Further still, the mere possibility that, under contrived circumstances, the middle tubular member 60 might contact the hub 12, is insufficient to “make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill”. Although the Examiner has not directly invoked inherency, the rejection requires a function not only not explicitly disclosed by the reference, but also a function which is explicitly missing from the disclosure as illustrated above. The figures suffice to demonstrate that contact between the middle tubular member 60 and the hub 12 does not necessarily occur as a result of the components of Suon being arranged as taught by Suon.

The Examiner’s argument fails demonstrate that the disclosure of Suon includes a middle tubular member “configured to engage the hub”. The Examiner then returns to the disclaimed interaction of a middle tubular member and hub 38 of Ravenscroft, and posits a hypothetical contact between the middle tubular member of Suon’s retrieval system and the hub 38 under the specifically selected circumstance in which the filter is manually held and touched to the an inner surface of the middle tubular member. This



possible contact does not demonstrate that contact is necessarily present in the proposed retrieval system of Suon as applied to the filter of Ravenscroft or that the contact would be recognized as necessarily present by one of skill in the art. Further, simple contact is not engagement as that term would be understood by one of skill in the art in the context of structure necessary to the function of retrieval device in view of the specification.

With regard to Whitcher, the Whitcher reference specifically discloses that the substrate 42A is secured to strut 16C of Figure 8. The reference does not teach or disclose adding a landing pad to any portion of a filter. Addition of a strut-attached substrate of Whitcher to the corresponding ends of shafts 32 of the filter of Ravenscroft would render the filter of Ravenscroft unsatisfactory for its intended purpose by preventing the shafts from retracting within the tubes 26 as required by the operation of Ravenscroft.

The Examiner notes in the Response to Arguments section of the Examiner's Answer that he has not suggested attaching landing pads to the shafts 32 of Ravenscroft; however adjacent to the shaft ends is the location taught by Whitcher for the attachment of the substrates and is the location where they are asserted to have utility for moderating tissue growth, said utility being solely as a substrate for surface treatment 40.

"Endothelial cell growth enhancing materials can be included alone or in combination with a polymeric carrier, such as the substrate 42 described with reference to FIGS. 8-10." (Col. 5, lines 21-24.)

Whitcher does not disclose any other utility for the substrate or any properties which would lead one of ordinary skill in the art to conclude that the substrates have other utilities. Even were one to ignore the teaching of Whitcher regarding the point of attachment of a substrate to a filter and the lack of a disclosed utility as a landing pad, the presence of a substrate of Whitcher does not overcome the other deficiencies of Ravenscroft in view of Suon as applied to claims 1 and 16.

## **B. CONCLUSION.**

The Examiner has erred in asserting that Ravenscroft does not disclose a retrieval means for retrieving the filter. Ravenscroft does disclose fully satisfactory retrieval

means for the embodiments of filters disclosed and those retrieval means include features which cooperate with the thermally activated components of the filters of Ravenscroft. Accordingly one of ordinary skill in the art would not be motivated to substitute an inferior retrieval means, for example that of Suon, which does not include the thermal features required by the operating principle of Ravenscroft. Further, a retrieval means of Suon does not achieve the primary object of the invention of Ravenscroft as described at column 2, lines 21-25 and quoted herein above.

The Examiner has erred by attempting to replace the recited functional requirement of the pending claims, “configured to engage” with the nonequivalent “capable of contacting” wherein even the hypothetical capability of contacting does not necessarily occur in the reference, but only may occur under selected circumstances not taught by the reference in which other elements of the filter retrieval system of Suon are not present in their operational relationship. In the absence of explicit disclosure of a claim element, the element must necessarily be present in the disclosure. “The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness.”

Although the Examiner has attempted to invert the burden of proof, the Examiner has failed to demonstrate that either engagement or contact between the middle tubular member and a hub necessarily does occur in the proposed combination of Ravenscroft and Suon, while the Suon reference indicates that engagement and contact does not necessarily occur.

The disclosure of Whitcher is applied in a manner not disclosed by Whitcher to obtain a result not taught by or inherent in the disclosure of Whitcher. The addition of the substrates 42 of Whitcher does not overcome the deficiencies of Ravenscroft in view of Suon as applied to independent claims 1 and 16 and by extension to claims dependent therefrom.

For the reasons stated above, as well as those discussed in the Appeal Brief, claims 16, 17, 20, 21, 25, and 33-35 are nonobvious over Ravenscroft in view of Suon; claims 1, 2, 5, 6, 9, and 19 are nonobvious over Ravenscroft in view of Suon and Whitcher; claims 24 and 36 remain nonobvious over Ravenscroft in view of Suon and

Hebert; and the Examiner's rejections of claims 1, 2, 5, 6, 9, 16, 19-21, 24, 25, and 33-36 under 35 U.S.C § 103 should be overruled.

Respectfully submitted,

Date: July 6, 2010 /glenn m. seager/  
Glenn M. Seager, Reg. No. 36,926  
CROMPTON, SEAGER & TUFTE, LLC  
1221 Nicollet Avenue, Suite 800  
Minneapolis, Minnesota 55403-2420  
[Glenn.Seager@cstlaw.com](mailto:Glenn.Seager@cstlaw.com)  
Tel: (612) 677-9050  
Fax: (612) 359-9349